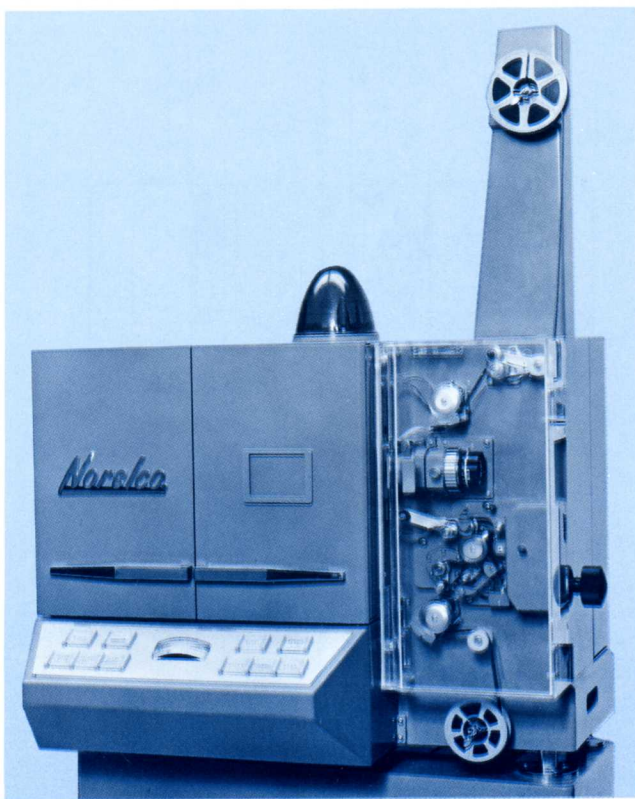


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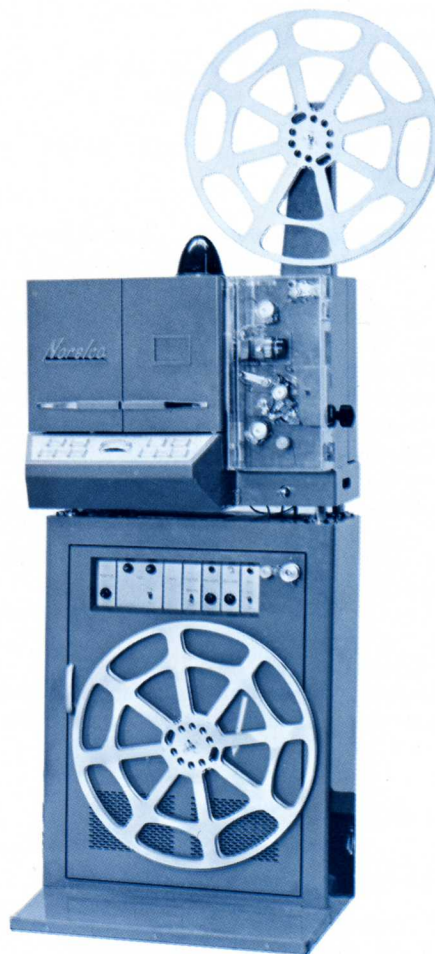
AUTOMATIC 16 mm FILM PROJECTOR FOR COLOR AND MONOCHROME TELEVISION MODEL TC-510D

FEATURES:

- Automatic replacement of projection lamp.
- Automatic replacement of exciter lamp.
- Quick starting and quiet operation.
- Reverse and remote operation.
- Single control for direct and remote switching in optical and magnetic sound reproduction.
- Automatic restoration of film loop.
- Film break alarm system.
- Level matching for optical and magnetic sound reproduction.



Provision is made for "spot commercial" reel projection. By using take-up spindle in the center of the projector use of large 5,000 ft. take-up reel is eliminated.



The automatic 16 mm projector, TC-510D, is designed specifically for color and monochrome television broadcasting. It is manufactured to meet the most stringent requirements of the industry and features reliable performance and long-life cycle, outstanding picture and sound quality, ease of maintenance and simple operation.

This system uses a 2-3 pull-down intermittent with five-blade shutter disk. All television transmission systems using film speeds of 24 frames per second can use this projector in the film chain assembly.

An outstanding feature of this projector is the automatic replacement of either the projector lamp or the exciter lamp. For example, it is not necessary to reset the exciter lamp to a starting point as in many other models. Both lamps are replaced immediately and automatically thus insuring continuous operation of program material.

SPECIFICATIONS

PROJECTION EQUIPMENT

Projection mechanism: 2-3 pull-down intermittent projection system using a shutter disk.

Film speed: 24 frames per second in both forward and reverse operation.

Film loading capacity: Main reel 20" dia. . . . 5000 feet maximum. Intermediate reel . . . 400 feet maximum.

Projection lens: Focal length—85mm, f/1.8 with adjustable iris.

Picture size: 3" x 4".

Picture deviation: Vertical: Less than 0.1% of picture width. Horizontal: Less than 0.1% of picture width.

Height of optical axis: 48" from pedestal base, adjustable up to $\pm 3/4$ ".

Film pull-down time and shutter opening angle:

Pull-down time: Less than 1/100 second.

Shutter opening angle: 165 degrees.

Light Distribution: More than 85% in ratio of minimum value to maximum value.

Light source: 115v, 750w tungsten projection lamp fitted with heat filters.

Starting time: Less than 1 second for both picture and sound.

Noise: Less than 70 phons at 1 meter from the projector.

Room temperature: 32°F to 104°F.

Power supply: Drive-motor and shutter-motor: 115V, 60 Hz, single phase. DC 24V power source enclosed. Line voltage: 115V, 60 Hz.

SOUND EQUIPMENT

OPTICAL SOUND REPRODUCTION

Overall frequency characteristic: At 50 ~ 7000 Hz . . . +1 dB, -2 dB against 1000 Hz.

When high-cut-filter is used: At 4000 Hz . . . -3 dB. At 7000 Hz . . . -10 dB per octave.

Overall signal-to-noise ratio: More than 50 dB at rated output.

Overall output distortion: Less than 0.3% at rated output plus 5 dB.

Output impedance: 600 $\pm 10\%$ at 1000 Hz.

600 $\pm 15\%$ at 50 ~ 7000 Hz.

Sound output level: +4 dB.

Monitor: 4 watt speaker enclosed.

Wow and flutter: Less than 0.3%.

Sound level fluctuation: Less than 0.5 VU.

Optical sound head position: 26 $\pm 1/2$ frames from the aperture.

Exciter lamp: 6V, 1A, DC.

Sound pick-up: Solar cell.

MAGNETIC SOUND REPRODUCTION

Overall frequency characteristic: Within the range specified in BSS464, P223.

Overall signal-to-noise ratio: More than 50 dB.

Overall output distortion: Less than 5%.

Output impedance: 600 $\Omega \pm 10\%$ at 1000 Hz.

600 $\Omega \pm 15\%$ at 50 ~ 7000 Hz.

Sound output level: +4 dB.

Monitor: 4 watt speaker enclosed.

Wow and flutter: Less than 0.3%.

Sound level fluctuation: Less than 1 VU.

Magnetic sound head position: 28 $\pm 1/2$ frames from the aperture.

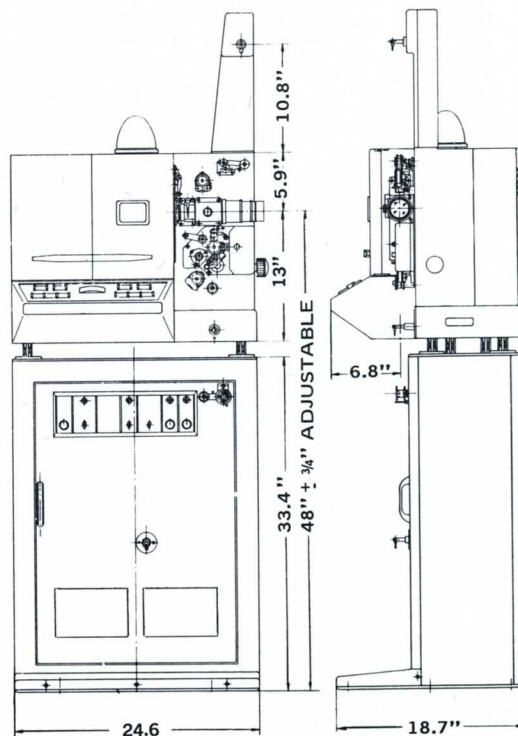
AUTOMATIC SYSTEM

Time for projection lamp replacement: Less than 1 second.

Time for exciter lamp replacement: Less than 1 second.

Number of frames to projector stop: 18 ± 1 frames.

Light control response time: Less than 0.5 second.



DIMENSIONS OF PROJECTOR (inches)

Norelco®

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